



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/707,326

11/06/2000

Rodric C. Fan

M-9630 US

9442

7590

10/24/2003

Edward C Kwok
MacPherson Kwok Chen & Heid LLP
2001 Gateway Place Suite 195E
San Jose, CA 95110

EXAMINER

SHARMA, SUJATHA R

ART UNIT

PAPER NUMBER

2684

DATE MAILED: 10/24/2003

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/707,326

Applicant(s)

FAN ET AL.

Examiner

Sujatha Sharma

Art Unit

2684

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 November 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-74 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-74 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1,3,5-7,9,12-16,18-21,23,24,28,29,33,36,40-42,44,47-51,53-55,57,59,61,62,66,68,71-74, are rejected under 35 U.S.C. 102(e) as being anticipated by van Diggelen (herein after Diggelen) [US 6,587,789].

Regarding claims 1,36,59, Diggelen discloses a method and apparatus for locating mobile receivers using a wide area reference network for propagating ephemeris. Diggelen further discloses an information processing station (108 in Fig. 1) connected to a data network accessible by wireless communication, said information processing station having a database. Diggelen further discloses a receiving station (126 in Fig. 1) including a position system receiver and a transmitter, said positioning system receiver receiving position information from a

Art Unit: 2684

positioning system and transmitting positioning information to said information processing station via a data link for storage at said database. Diggelen further discloses a mobile unit (118 in Fig. 1) including a positioning system receiver and a wireless receiver, said mobile unit receiving said positioning information from said information processing station via said data network using wireless communication. See col. 3, line 1- col. 4, line 36.

Regarding claim 3, Diggelen further discloses the positioning system to be global positioning system (GPS), said positioning receiver is a GPS receiver and said positioning information is GPS satellite information. See Fig. 1 and col. 3, line 1- col. 4, line 36.

Regarding claims 5,6,40,41,61,62, Diggelen discloses a method where the information processing station (108 in Fig. 1) distributes said satellite information by broadcasting satellite information through said data network and said mobile unit receives said broadcast satellite information through wireless communication (see fig. 1 and col. 3, line 1- col. 4, line 36).

Regarding claim 7,42,66, Diggelen discloses the satellite information comprising of ephemeris information defining the orbital parameters of said GPS satellites (see col. 1, line 56 – col. 2, line 35).

Regarding claims 9,44,68, Diggelen further discloses the satellite information to comprise of one or more navigation messages transmitted by said GPS satellites (see summary of invention).

Regarding claims 12,13,47,48,71,72, Diggelen further discloses the satellite information to also include satellite almanac information of said GPS satellites, where this data is further used by the mobile station to locate one or more GPS satellites above the horizon (see col. 1, lines 34-44).

Art Unit: 2684

Regarding claims 14,49,73, Diggelen further discloses the satellite information to include satellite clock correction factors of said GPS satellites. See col. 4, lines 13-17 and col. 6, lines 21-26.

Regarding claims 15,50,74, Diggelen further discloses the satellite information to include Doppler shift information (see col.1, lines 34-44 and col. 6, lines 62-66).

Regarding claims 16,51, Diggelen further discloses the satellite information to comprise of differential correction data computed by said receiving station (see col.1, lines 34-44 and col. 6, lines 62-66).

Regarding claim 18, Diggelen discloses the receiving station (126 in Fig.1) to be stationary (see col. 3, line 1- col. 4, line 36).

Regarding claims 19,53, Diggelen discloses a method where the receiving station is in direct line of sight of one or more GPS satellites continuously and substantially uninterrupted (see Fig. 1, and col.3, lines 1-67).

Regarding claims 20,21,54,55, Diggelen further discloses the data link to be a wireless data link or a wired data link. See Fig.1 and col. 3, line 1- col. 4, line 36.

Regarding claims 23,57, Diggelen discloses the data link as a communication data link through said data network. See Fig.1 and col. 3, line 1- col. 4, line 36.

Regarding claim 24, Diggelen further discloses a wireless network gateway (116 in Fig.1) connected to said data network, said gateway providing wireless communication service to said mobile unit to provide the mobile unit information from the data network. See Fig.1 and col. 3, line 1- col. 4, line 36.

Art Unit: 2684

Regarding claim 28, Diggelen discloses the communication service to comprise communication over a satellite data link. See Fig.1 and col. 3, line 1- col. 4, line 36.

Regarding claims 29, 58, Diggelen discloses the data network to comprise of publicly shared network such as the Internet. See col. 4, lines 21-36.

Regarding claim 33, Diggelen discloses a method where the information processing station broadcasts said satellite information to the mobile unit/cell phone. See Fig.1 and col. 3, line 1- col. 4, line 36

3. Claims 1,3,5-7,9,12-16,18-21,23,24,28-42,44,47-51,53-55,57,59,61,62,66,68,71-74, are rejected under 35 U.S.C. 102(e) as being anticipated by Sheynblat [WO 99/56144].

Regarding claims 1,36,59, Sheynblat discloses a method and apparatus for providing location-based information via computer network. Sheynblat further discloses an information processing station (32,33 in Fig. 2A) connected to a data network accessible by wireless communication, said information processing station having a database. Sheynblat further discloses a receiving station (24a, 24b in Fig. 2A) including a position system receiver and a transmitter, said positioning system receiver receiving position information from a positioning system and transmitting positioning information to said information processing station via a data link for storage at said database. Sheynblat further discloses a mobile unit (1A-1D, 2A-2D, 3A-3D) including a positioning system receiver and a wireless receiver, said mobile unit receiving said positioning information from said information processing station via said data network using wireless communication. See pages 6,7 and Fig. 2A.

Art Unit: 2684

Regarding claim 3, Sheynblat further discloses the positioning system to be global positioning system (GPS), said positioning receiver is a GPS receiver and said positioning information is GPS satellite information. See pages 6,7 and Fig. 2A.

Regarding claims 5,6,40,41,61,62, Sheynblat discloses a method where the information processing station (32,33 in Fig. 2A) distributes said satellite information by broadcasting satellite information through said data network (40 in Fig. 2A) and said mobile unit receives said broadcast satellite information through wireless communication. See pages 6,7 and Fig. 2A.

Regarding claim 7,42,66, Sheynblat discloses the satellite information comprising of ephemeris information defining the orbital parameters of said GPS satellites See page 1, paragraph 3.

Regarding claims 9,44,68, Sheynblat further discloses the satellite information to comprise of one or more navigation messages transmitted by said GPS satellites. See page 1, paragraph 3,4.

Regarding claims 12,13,47,48,71,72, Sheynblat further discloses the satellite information to also include satellite almanac information of said GPS satellites, where this data is further used by the mobile station to locate one or more GPS satellites above the horizon. See table 1 and page 27.

Regarding claims 14,49,73, Sheynblat further discloses the satellite information to include satellite clock correction factors of said GPS satellites. See page 1, paragraphs 2,3, table 1 and page 27.

Regarding claims 15,50,74, Sheynblat further discloses the satellite information to include Doppler shift information. See table 1 and page 27.

Regarding claims 16,51, Sheynblat further discloses the satellite information to comprise of differential correction data computed by said receiving station. See table 1 and page 27.

Regarding claim 18, Sheynblat discloses the receiving station (24a, 24b in Fig.2A) to be stationary. See pages 6,7 and Fig. 2A.

Regarding claims 19,53, Sheynblat discloses a method where the receiving station is in direct line of sight of one or more GPS satellites continuously and substantially uninterrupted. See pages 6,7 and Fig. 2A.

Regarding claims 20,21,54,55, Sheynblat further discloses the data link to be a wireless data link or a wired data link. See pages 19,20.

Regarding claims 23,57, Sheynblat discloses the data link as a communication data link through said data network. See pages 19,20.

Regarding claim 24, Sheynblat further discloses a wireless network gateway (116 in Fig.1) connected to said data network, said gateway providing wireless communication service to said mobile unit to provide the mobile unit information from the data network. See page 11 and page 12, paragraph 1.

Regarding claim 28, Sheynblat discloses the communication service to comprise communication over a satellite data link. See Fig, 2A and pages 6 and 7.

Regarding claims 29, 58, Sheynblat discloses the data network to comprise of publicly shared network such as the Internet. See page 20.

Regarding claims 30,31, Sheynblat further discloses the data processing station to include maps and wherein the GPS receiver of the mobile station receives time of arrival information from GPS satellites and the data processing station receives time of arrival information from the

Art Unit: 2684

mobile unit and computes a measured position using satellite information distributed by said information processing station. See Fig, 2A and pages 6 and 7, pages 11 and 12.

Regarding claim 32, Sheynblat further discloses a method where the data processing station provides travel-related information to said mobile unit based on the measured position of said mobile unit. See summary of invention, page 12, paragraph 3, pages 26,27,page 30, paragraph 1, page 32, paragraph 1.

Regarding claim 33, Sheynblat discloses a method where the information processing station broadcasts said satellite information to the mobile unit/cell phone. See Fig. 2A and pages 6,7.

Regarding claim 34, Sheynblat further discloses a method where the user of the said cell phone places a 911 call using the said cell phone and determine its position using said broadcast satellite information from said information processing station. See page 12, paragraph 3.

Regarding claim 35, Sheynblat further discloses a method where the user of said mobile unit obtains location dependent information using the cell phone. See summary of invention, page 12, paragraph 3, pages 26,27,page 30, paragraph 1, page 32, paragraph 1.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

Art Unit: 2684

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2,4,8,17,25-27,38,39,43,52,60,65,67 are rejected under 35 U.S.C. 103(a) as being unpatentable over van Diggelen (herein after Diggelen) [US 6,587,789] in view of Twitchell [US 6,222,483].

Regarding claims 2,4,8,17,38,39,43,52,60,65,67, Diggelen discloses all the limitations as claimed. However Diggelen does not disclose the method of triangulation to determine the position of the mobile unit.

Twitchell, in the same field of endeavor, teaches the method of triangulation to determine the position of the mobile unit. See col. 2, lines 10-20.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to include the teachings of Twitchell to Diggelen in order to rapidly locate, track and acquire position information from GPS satellites and accurately determine the position of the mobile unit in order to avail the location dependent services.

Regarding claims 25-27, Twitchell further discloses communication service comprising communication using packet data structure, cellular telephone modem and using a SMS of a cellular communication structure. See col.7, lines 5-37.

6. Claims 2,4,8,17,25-27,38,39,43,52,60,65,67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sheynblat [WO 99/56144] in view of Twitchell [US 6,222,483].

Regarding claims 2,4,8,17,38,39,43,52,60,65,67, Sheynblat discloses all the limitations as claimed. However Sheynblat does not disclose the method of triangulation to determine the position of the mobile unit.

Art Unit: 2684

Twitchell, in the same field of endeavor, teaches the method of triangulation to determine the position of the mobile unit. See col. 2, lines 10-20.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to include the teachings of Twitchell to Sheynblat in order to rapidly locate, track and acquire position information from GPS satellites and accurately determine the position of the mobile unit in order to avail the location dependent services.

Regarding claims 25-27, Twitchell further discloses communication service comprising communication using packet data structure, cellular telephone modem and using a SMS of a cellular communication structure. See col.7, lines 5-37.

7. Claims 10,11,45,46,69,70 are rejected under 35 U.S.C. 103(a) as being unpatentable over van Diggelen (herein after Diggelen) [US 6,587,789] in view of Sheynblat [US 6,583,756].

Regarding claims 10,11,45,46,69,70, Diggelen discloses all the limitations as claimed.

Diggelen however does not disclose the satellite information to also include the health information of the said GPS satellites.

Sheynblat, in the same field of endeavor, teaches a method where the GPS receiver station also receives information concerning the status/health of the satellite. See col.2, line 65 – col. 3, line 15.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to include the teachings of Sheynblat to Diggelen in order to avoid acquiring and tracking of unhealthy satellites and thus rapidly locate, track and acquire position information from healthy satellites.

Art Unit: 2684

8. Claims 10,11,45,46,69,70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sheynblat [WO 99/56144] in view of Sheynblat [US 6,583,756].

Regarding claims 10,11,45,46,69,70, Sheynblat discloses all the limitations as claimed.

Sheynblat however does not disclose the satellite information to also include the health information of the said GPS satellites.

Sheynblat', in the same field of endeavor, teaches a method where the GPS receiver station also receives information concerning the status/health of the satellite. See col.2, line 65 – col. 3, line 15.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to include the teachings of Sheynblat' to Sheynblat in order to avoid acquiring and tracking of unhealthy satellites and thus rapidly locate, track and acquire position information from healthy satellites.

9. Claims 37,64 are rejected under 35 U.S.C. 103(a) as being unpatentable over van Diggelen (herein after Diggelen) [US 6,587,789].

Regarding claims 37,64, Diggelen discloses all the limitations as claimed. Diggelen further disclose the receiving station to receive GPS satellite information from 28 satellites in earth's orbit.

The number of satellites depends on the availability of the satellites and the design of the satellite system and changing the number of satellites from 28 to 24 does not alter the scope of the invention.

Art Unit: 2684

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to receive GPS satellite information from 24 satellites in earth's orbit in order to meet the system requirements and availability requirement

10. Claims 22 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over van Diggelen (herein after Diggelen) [US 6,587,789].

Regarding claims 22 and 56, Diggelen discloses the use of landline for the data link. See col. 3, lines 45-52. Diggelen does not disclose particularly the use of T1 link for the data link. However, the examiner takes official notice that a T1 link is a landline.

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the landline link in Diggelen's invention with a T1 link in order to increase the speed and capacity of the data transmission.

11. Claims 22 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sheynblat [WO 99/56144].

Regarding claims 22 and 56, Sheynblat discloses the use of landline for the data link. See pages 19,20. Sheynblat does not disclose particularly the use of T1 link for the data link. However, the examiner takes official notice that a T1 link is a landline.

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the landline link in Sheynblat's invention with a T1 link in order to increase the speed and capacity of the data transmission.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure

Walsh US [6,603,977] Location information system for a wireless communication device and method therefor.

Want US [6,122,520] System and method for obtaining and using location specific information.

Pande US [6,389,291] Multimode global positioning system for use with wireless networks.

Da, Ren EP [1 148 344 A1] Positioning of a wireless terminal with satellite positioning signals or base station signals.

Moeglein WO [99/56145] Satellite positioning reference system and method.

Chen US [6,611,756] Method for predicting navigation information in a global positioning system.

Smith US [6,380,890] Information appliance system having a navigational position generation method.

Abraham US [6,560,534] Method and apparatus for distributing satellite tracking information.

Cleave US [5,793,813] Communication system employing space-based terrestrial telecommunication equipment.

Kingdon WO [99/55753] System and method for provisioning assistance global positioning system information to a mobile station.

Art Unit: 2684


Myers EP [874 248 A2] Rapid and precise geolocation of cellular telephone through the use of GPS satellite system.

Mcburney US [6,473,030] Infrastructure-aiding for satellite navigation receiver and method.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sujatha Sharma whose telephone number is 703-305-5298. The examiner can normally be reached on Mon-Fri 7.30am - 4.00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on 703-308-7745. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3800.


Sujatha Sharma
October 9, 2003


NAY MAUNG
SUPERVISORY PATENT EXAMINER